

70. (New) A composition according to Claim 69, wherein  $T_p$  is 40-50 °C.

71. (New) A composition according to Claim 69, wherein the SCC polymer consists essentially of units derived from at least one n-alkyl acrylate or methacrylate in which the n-alkyl group contains 12 to 50 carbon atoms.

72. (New) A composition according to Claim 69 which contains 3 to 10% by weight of the SCC polymer.

73. (New) A composition according to Claim 69 which contains 3 to 7% by weight of the SCC polymer.

#### REMARKS

#### AMENDMENTS

##### In the Claims

In addition to the rearrangement and re-numbering of the claims, the following amendments have been made.

Amendments to Claims 7 and 10 (now Claims 40 and 45). These claims (which are the independent claims specifying that the SCC polymer is present an amount such that it thickens the oil) now require

- (i) that the composition is a cosmetic composition, and
- (ii) that the composition is at a temperature at which the composition, in the absence of the SCC polymer, is liquid.

Basis for the limitation to cosmetic compositions is on page 9, lines 27-34.

The term cosmetic composition is used in accordance with the Food, Drug, and Cosmetic Act, to mean a composition intended to be "rubbed, poured, sprinkled, or

sprayed on, introduced into, or otherwise applied to the human body... for cleansing, beautifying, promoting attractiveness, or altering the appearance". As further discussed below, this limitation further distinguishes these claims from the Mueller reference.

5           Basis for the limitation that "the composition is at a temperature at which the composition, in the absence of the SCC polymer, is liquid" is inherent in the specification as filed. Thus, the whole purpose of the invention is to thicken oil-containing compositions, and only liquid compositions require thickening. As further discussed below, this limitation has been inserted in order to make it entirely clear that  
10   the claims in question are not anticipated by compositions as disclosed in the Mueller reference which are at a temperature below the pour point of the mixture of oil and flow control additive.

Amendments to Claims 5 and 21 (now claims 52 and 59). These claims (which are  
15   independent claims specifying that the SCC polymer consists of 50 to 100% of specified first units and "less than 50%" of specified second units) have been amended to the state that the amount of the second units is "0 to 50%", in order to make it absolutely clear that the polymer can consist of the first units.

20   Amendments to Claim 11 (now Claim 54).       This independent Claim has been made dependent on Claim 5 (now Claim 52).

Amendments to Claim 21 (now Claim 59).       This Claim, which is the independent Claim specifying that the oil in the composition must be selected from a group of defined  
25   oils, has been amended to remove "mineral oils and vaseline oils".

New Claim 65-67. These new claims are dependent on Claim 59 and specify particular oils. Basis for these claims will be found in column 5, lines 7-53, of U.S. Patent No. 5, 519,063 (Mondet et al.), which is incorporated by reference in the  
30   application as filed (see page 1, lines 15-24 and page 9, lines 18-21).

## In the Specification

The paragraph beginning on page 9, line 18, has been amended to provide a counterpart for claims 59 and 65-67. As noted above, basis for the amended paragraph will be found in U.S. Patent No. 5, 519,063.

## THE OBJECTIONS AND REJECTIONS

### The Objection under 35 U.S.C. 132.

Applicant respectfully traverses the objection under 35 U.S.C. 132.

Initially, is noted that the Examiner now agrees that the phrase "present in amount sufficient to thicken the composition" is not new matter. It appears, therefore, that the objection is only to the statement that the amount is "for example at least 3%". Thus, the objection raises the same issues as the rejection of claims 5, 9, 11 and 20 (now Claims 42,52, 54 and 57) under 35 U.S.C. 112 because they specify that the composition contains at least 3% by weight of the SCC polymer. Applicant's reasons for traversing the objection are the same as those set out below in connection with the rejection of claims 5, 9, 11 and 20 (now Claims 42,52, 54 and 57) under 35 U.S.C. 112, and in the interest of brevity are not repeated here.

The discussion in the Office Action of the objection under 35 U.S.C. 132 does, however, raise an issue that is not raised (or at least not explicitly raised) in the discussion in the Office Action of the corresponding rejection under 35 U.S.C. 112. The same issue is referred to in the section of the Office Action entitled Response to Arguments. In the discussion of the objection, the Examiner states

*since the Morawsky Patent defines that amount as 0.1-12 % by weight, the phrase (i.e. the phrase 'present in amount sufficient to thicken the composition') will be interpreted as such.*

Applicant submits that such an interpretation is wrong. At no point does Morawsky define the amount in question as 0.1-12 %. Nor would one skilled in the art, reading Morawsky, consider that amounts outside the range of 0.1-12% could not be used or did not form part of the Morawsky's invention. On the contrary, Morawsky makes it clear that any amount sufficient to thicken the oil can be used. This is perhaps most clearly shown by the fact that Claim 1 expressly states "in an amount effective to provide thickening of the oil", and Claim 6, dependent on Claim 1, states that the amount ranges from about 0.1 to about 12%. As noted in 35 U.S.C. 112, fourth paragraph, Claim 6 must "specify a further limitation of the subject matter claimed" in Claim 1. There cannot be any doubt, therefore, that Claim 1 discloses and claims any amount which is sufficient to thicken the oil. The same teaching is in column 3, lines 19-24, which first states that the thickening copolymer is present "in an amount sufficient to thicken the composition to the desired thickness" and then states (in a separate sentence) that "in general" the amount is from about 0.1 % to about 12%. Through its use of the phrase "in general", this passage in Morawsky likewise discloses the possibility that the amount may be other than about 0.1 to about 12%.

Applicant also notes that, insofar as the examination of this application has depended in any way upon the Examiner's interpretation of Morawsky, the examination should be reconsidered. For example, a number of the claims require, directly or indirectly, that the SCC polymer "is present in amount such that it thickens the oil", and it might be argued, in later proceedings, that the Examiner, in considering the patentability of these claims, construed those claims as limited to the SCC polymer being present in amount 0.1 to 12%. For the avoidance of doubt, the Examiner is asked to state on the record that the further examination has been carried out on the basis that the phrase "in an amount sufficient to thicken the composition" in Morawsky and the corresponding phrase "in amount such that it thickens the oil" in the claims of this application, mean simply what they say and are **not** limited to amounts in the range of 0.1 to 12%.

## The Rejections under 35 U.S.C. 112

Applicant respectfully traverses

(1) the rejection of claims 5, 9, 11 and 20 (now claims 42, 52, 54 and 57) under 35 U.S.C. 112, first paragraph, as "containing subject matter which was not described in the specification in such a way as to convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention", because "there is no mention in the original claims of "at least 3% by weight" of SCCP"; and

(2) the rejection of claims 5, 9, 11 and 20 (now claims 42, 52, 54 and 57) under 35 U.S.C. 112, first paragraph,, because the specification, "while being enabling for 3-10% by weight of SCCP, does not reasonably provide enablement for 3-100% by weight of SCCP "and "does not enable any person skilled in the art to which it pertains or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims";

insofar as those rejections are applicable to the new claims, for the reasons set out below.

### 1. The Rejection of Claims 5, 9, 11 and 20 (now claims 42, 52, 54 and 57) for Lack of Written Description

Each of claims 5, 9, 11 and 20 (now claims 42, 52, 54 and 57) requires that the composition should contain at least 3% by weight of the SCC polymer.

As noted in MPEP 2163.04, the burden is on the Examiner, when making a rejection based on failure to meet the written description requirements of 35 U.S.C. 112, to "establish a *prima facie* case by providing reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed, in view of the disclosure of the application as filed"

The stated basis for the rejection is:

*There is no mention in the original claims of "at least 3% by weight" of SCCP .  
Only the 3-10% by weight range is mentioned on page 9, lines 12-14 of the  
original specification.*

- 5 The Examiner has not provided, either in this Office Action or in any earlier Office Action making the same or substantially the same rejection, any reason why a person skilled in the art, reading the application as filed, would not have recognized that the inventor was in possession of the invention defined in the claims in question. It is indeed true that page 9, lines 12-14, refers to a range of 3-10%, and that there is no mention in the  
10 original claims of "at least 3% by weight". But to state those facts, while ignoring the remainder of the application as filed, does not provide any reason why a person skilled in the art, reading the entire application as filed, would not have recognized that the inventor was in possession of the open-ended range of "at least 3% by weight". Thus the Examiner has not established the *prima facie* case referred to in the MPEP, and the  
15 rejection should be withdrawn for that reason alone.

- Although the Examiner has not established a *prima facie* case, papers filed previously by the Applicant have, in the interests of speedy prosecution, set out in detail the reasons why a person skilled in the art, reading the specification as filed, would  
20 have recognized that the inventor was in possession of the invention as claimed. Thus, on pages 17-18 of the Reply mailed September 27, 2002, in the Supplemental Reply mailed Oct. 17, 2002, and in the declaration by Mr. Steinberg which accompanied the Supplemental Reply, Applicant submitted a detailed argument rebutting the substantially identical rejection in the Office Action mailed July 31, 2002.

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- MPEP 2163.04, II (Response to Applicant's Reply) states that, upon reply by applicant to a rejection for lack of written description, the Examiner should make an appropriate review, and if he remains of the opinion that the written description is not adequate, should "fully respond to applicant's rebuttal arguments, properly treat any  
30 further showings submitted by applicant and thoroughly analyze and discuss any affidavits relevant to the rejection".

The Office Action mailed November 25, 2002, does not discuss the rebuttal arguments in the Reply and Supplemental Reply. Nor does the Office Action thoroughly analyze and discuss the Declaration, but rather dismisses it as having "no probative value since it constitutes an opinion of someone who is not one of ordinary skill in the art". The Examiner is not entitled to ignore Mr. Steinberg's evidence because it "constitutes only an opinion of someone who is not of ordinary skill in the art". It is true that Mr. Steinberg is highly skilled. But his evidence is not directed to what he himself is able to understand from the original application. Rather his evidence is directed to the identification of relevant facts, and to statements of his opinion as to what would be understood from the original application by a "person skilled in the art" (the words of 35 U.S.C. 112). Mr. Steinberg's qualifications validate, rather than disqualify, his opinion as to the understanding of a person skilled in the art (or, in the Examiner's words, a person of ordinary skill in the art).

If the Examiner does not withdraw the rejection after consideration of the arguments set out below (which repeat and amplify the arguments previously submitted), he is asked to comply with the directions of the MPEP quoted above, so that Applicant can fully understand the Examiner's position.

Applicant's argument that the application as filed contains a written description of "at least 3%" is based in part on the fact that (as the Examiner now agrees) the specification as filed discloses that the SCC polymer is to be used in an amount such that thickens the composition. The stated basis for the Examiner's agreement is the disclosure in the Morawsky Patent, which is incorporated by reference. However, Applicant believes that it is also clear from the specification (as filed), even without the incorporation by reference of the Morawsky Patent, that the SCC polymer is to be used in an amount such that it thickens the composition.

Page 2, lines 11-17, of the specification as filed, reads:

I have discovered, in accordance with the present invention, that oil-containing compositions can be thickened with polymers which contain long chain alkyl groups in side chains but which contain no, or relatively few, acid groups as specified in U.S. Patent No. 5,736,125 or acid salt groups as specified in U.S. Patent No. 5,318 995. Furthermore I have been able to obtain improved results through the use of such polymers. The polymers which are useful in the present invention are crystalline polymers, preferably side chain crystalline (SCC) polymers which...

Consistent with this initial statement of the invention, the remainder of the specification constantly refers to the fact that the purpose and result of adding the crystalline polymers to the oils is to produce a thickened oil composition. Reference may be made, for example to the following passages.

*the use of such polymers as thickening agents* (page 3, lines 18-19),  
*the polymers used as thickeners in the present invention* (page 5, line 15),  
*the thickening polymer* (page 8, lines 23 and 30),  
*the polymeric thickener* (page 5, line 13, page 9, lines 12, 18 and 25),  
*a thickened oil composition* (Claim 1, line 1).

These generalized references to the use of the SCC polymers as thickening agents, and to the production of thickened oil compositions, inherently disclose that the SCC polymer is used in an amount sufficient to thicken the oil.

Page 9, lines 12-14, of the specification as filed, reads (emphasis added):

*The amount of the polymeric thickener **preferably** used varies with the application. It is **usually** unnecessary to use more than 10% of the total composition, and smaller amounts **such as** 3 to 7%, for example about 5%, are often effective.*

This passage, through its use of the words "preferably", "usually" and "such as", clearly teaches that the amounts in question are preferred, not mandatory, amounts, and explicitly discloses (i) the use of 3% of the SCCP, and (ii) the use of "more than 10%" of the SCCP. It is submitted, therefore, that this passage, read in the context of the



specification as a whole, clearly conveys to one skilled in the relevant art that the inventor, at the time the application was filed, was in possession of the invention when "at least 3% by weight" of the SCC polymer is used.

5           In *Ralston Purina vs. Far-Mar-Co Inc.* 772 F.2d 1570, 227 USPQ 177 (Fed. Cir. 1985) the CAFC held that claims reciting a total moisture content of "at least about 25 %" fulfilled the written description requirement of 35 U.S.C. 112 when the original specification contained examples having a moisture content between 25% and 39%. Applicant recognizes that compliance or noncompliance with the written description  
10       requirement depends on the particular facts. Nevertheless, the essential facts in the present case are so close to those in the *Ralston Purina* case that it is proper to rely upon the *Ralston Purina* decision as further affirming that the rejected claims comply with the written description requirement of 35 U.S.C. 112.

15       2. The Rejection of Claims 5, 9, 11 and 20 (now claims 42, 52, 54 and 57) for Lack of Enablement

Each of claims 5, 9, 11 and 20 (now claims 42, 52, 54 and 57) requires, directly or indirectly, that the composition contains at least 3% by weight of the SCC polymer.

20           The stated basis for this rejection is:

*The specification, while being enabling for 3-10% by weight of SCC polymer, does not reasonably provide enablement for 3-100% by weight of the SCC polymer. The specification does not enable any person skilled in the art... to  
25       make or use the invention commensurate in scope with these claims. See page 9, lines 12-14, of the original specification. The specification teaches away from the use of more than 10 % by weight of SCCP.*

30           As noted in MPEP 2164.04, the burden is on the Examiner, when making a rejection based on failure to meet the enablement requirements of 35 U.S.C. 112, to "establish a reasonable basis to question the enablement provided for the claimed

invention", giving "specific technical reasons". The Examiner has not provided such a "reasonable basis" or such "specific technical reasons". He has merely asserted, without giving reasons, that the claimed invention is not enabled. Even if it were true (and it is not, for the reasons explained below) that the specification teaches away from the use of more than 10% by weight of SCCP, that would not provide any reason for asserting that the specification did not enable the use of more than 10% by weight of SCCP. Thus the Examiner has not established the reasonable basis referred to in the MPEP, and the rejection should be withdrawn for that reason alone.

Although the Examiner has not established a reasonable basis for the rejection, papers filed previously by the Applicant have, in the interests of speedy prosecution, set out in detail the reasons why the specification meets the enablement requirements of 35 U.S.C. 112. Thus, in the Reply mailed September 27, 2002, the Supplemental Reply mailed Oct. 17, 2002, and the declaration by Mr. Steinberg which accompanied the Supplemental Reply, Applicant submitted detailed arguments rebutting a similar rejection in the Office Action mailed July 31, 2002.

MPEP 2163.05 (Determination of Enablement Based on Evidence as a Whole) states that, upon reply by applicant to a rejection for lack of enablement, the Examiner should "weigh all the evidence before him... and decide whether the claimed invention is enabled".

The Office Action mailed November 25, 2002, does not discuss the rebuttal arguments and evidence in the Reply and Supplemental Reply. Nor does the Office Action discuss the Declaration, but rather dismisses it as having "no probative value since it constitutes an opinion of someone who is not one of ordinary skill in the art". To fall the reasons already given, the Examiner is not entitled to dismiss the evidence by Mr. Steinberg.

If the Examiner does not withdraw the rejection after consideration of the arguments set out below (which repeat and amplify the arguments previously

submitted), he is asked to comply with the directions of the MPEP quoted above, so that Applicant can fully understand the Examiner's position.

5 The specification as filed contains, on page 9, lines 12-14, an indication of the amounts of the SCC polymer which are preferably used to thicken the oil, and provides specific examples of thickened oils. The thickening of oils by the addition of suitable additives is a well-known technology, as evidenced by the numerous U.S. Patents noted below, several of which are already of record, and incorporated by reference in this application. As noted in MPEP 2164.08, "not everything necessary to practice the  
10 invention need be disclosed" and "what is well-known is best omitted".

Examples of relevant passages from the prior art include the following.

(1) U.S. Patent No. 5,736,125 (Morawsky), which is of record and which is incorporated by reference, states

15 (i) in column 3, lines 19-21  
*In the compositions, the amount of thickening copolymer... is present in  
an amount sufficient to thicken the composition to the desired  
thickness*

(ii) in Claim 1  
20 *... in an amount effective to provide thickening*

(2) U.S. Patent No. 5,112,601 (Sebag et al.), which is of record and which is incorporated by reference, states

(i) in column 3, lines 35-39  
25 *The proportion of thickening agents according to the invention may vary within a broad range depending on the medium to be thickened but lies generally between 0.1 and 25% by weight...*

(ii) in Claim 6  
30 *A process of thickening... animal vegetable and mineral oils... comprising mixing with said oily liquids... a thickening effect amount of any alkyl ester of... general formula...*

and in Claim 7

*The process according to Claim 6 wherein the alkyl ester compounds are used in an amount between 0.1 and 25% ...*

(3) U.S. Patent No. 5, 270,379 (McAndrew et al.), which is of record and which is incorporated by reference, states

(i) in column 3, lines 10-12

*We have discovered that certain hydrophobically modified amine functional polymers can function as associative thickeners...*

(ii) in Claim 1

*A water-based fluid coating material... which... contains **a thickening amount** of a vinylamine polymer...*

(4) U.S. Patent No. 4,261,845 (Cuscurida), a copy of which is attached, states in Claim 3

*a grease composition comprising an oil... and **a thickening amount** of a polyurea of Claim 1...*

(5) U.S. Patent No. 6,475,495 (Maignan et al.), a copy of which is attached, states in Claim 18

*A process for thickening a composition comprising adding to the composition **an effective thickening amount** of a compound chosen from...*

It will be apparent from the examples given above that the technology of thickening oil-containing compositions is well-known. It will also be apparent that the Office routinely allows claims in which the amount of the thickening additive is defined functionally, not numerically. It is submitted, therefore, that those skilled in the art will have no difficulty, having regard to their own knowledge, the disclosure of this application, and routine experimentation, in determining the amounts of SCC polymer to be used for thickening oils. Paragraph 10 of Mr. Steinberg's Declaration confirms this.

The Examiner has asserted that the specification "does not reasonably provide enablement for 3-100 % by weight of SCCP" and "does not enable any person skilled in the art... to make or use the invention commensurate in scope with these claims". That

assertion indicates that in the Examiner's opinion the claims include compositions consisting of 100% of SCCP. That is not correct. The claims are directed to thickened oil compositions.

5           The Examiner has also asserted that the present specification "*teaches away from the use of more than 10% by weight of SCCP*". Page 9, lines 12-13, is the only part of the specification which refers to the use of 10% of SCCP. It reads

*The amount of the polymeric thickener preferably used varies with the application. It is usually unnecessary to use more than 10% of the total composition...*

10           Applicant does not agree that this passage (or any other part of the specification) teaches away from the use of more than 10%. On the contrary, this passage

(i)       states quite generally that the amount to be used varies with the application; and

15       (ii)   states that it is "usually unnecessary to use more than 10%"; this phrase

(a)       clearly states that there will be circumstances in which it is necessary to use more than 10%, and

(b)       clearly contemplates the possibility that, even if it is not necessary to use more than 10%, an amount greater than 10% can be used.

20           Applicant asserts, therefore, that the specification contains enablement commensurate in scope with the protection sought by the claims. It is well-settled law that under such circumstances, a rejection of lack of enablement must be withdrawn unless the Examiner substantiates the rejection by reason or evidence. For example, 25   the CCPA, in *in re Budnick*, 190 USPQ 422, observed

*Where an applicant has asserted that the specification contains enablement commensurate in scope of the protection sought by the claims, but the Examiner is of the opinion that the disclosure is not enabling, he has the burden of substantiating his doubts concerning enablement with reason or evidence.*

As noted above, in the present case, the Examiner has not substantiated his doubts in any way. He has merely **asserted** that the specification is not enabling. It is submitted, therefore, that the rejection should be withdrawn.

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The Rejections under 35 U.S.C. 102 and 35 U.S.C. 103

Applicant respectfully traverses the rejections of

- 10       (1)     claims 2, 5, 7-14 and 27 (now claims 40-42, 45-49, and 52-54) under 35 U.S.C. 102 as anticipated by Mueller (U.S. Patent No. 5,281,329), and  
          (2)     claims 2, 5, 7-14 and 21-27 (now claims 40-42, 45-49, 52-54 and 59-64) under 35 U.S.C. 103 as obvious over Mueller.

- 15       The Office Action does not provide any reasons in support of these Rejections. For this reason alone, therefore, the rejection should be withdrawn. Nor does the Office Action contain more than cursory comments on Applicant's detailed arguments set forth in the Reply mailed September 27, 2002 to the Office Action mailed July 31, 2002, rebutting similar rejections under 35 U.S.C. 102 and 103 in  
20     that Office Action. In the interests of speedy prosecution, however, set out below are detailed comments on the relationship between the Morawsky reference and the new claims, taking account also of the comments in the Office Action mailed November 21, 2002, on the related CIP application. If the Examiner maintains any rejection under 35 U.S.C. 102 or 103, he is asked to state in detail his reasons in support of the rejection,  
25     including his reasons why he does not agree with the comments below.

- Mueller is concerned with improving the flow characteristics of petroleum oils and petroleum oil products containing paraffins which influence the flow characteristics of the oils at lower temperatures. The paraffins dissolve in the oil at higher temperatures,  
30     but crystallize out on cooling, and in this way, "the ability of the oils to flow is lowered or entirely prevented" (column 1, lines 14-19). Thus, as the temperature falls, crystallization

of the paraffins begins at the "wax appearance point" or "cloud point" (column 2, lines 5-14), and as the temperature continues to fall, the viscosity of the oil rises until, at a temperature called the pour point, the oil will no longer flow. Mueller refers to the known polymeric flow improvers, for example the so-called 'pour point depressants' (column 1, lines 20-21), including long chain alkyl (meth)acrylates (i.e. SCC polymers). Mueller's invention is to provide an "outstanding flow improving effect "(column 4, line 35) by dissolving into the oil an additive which is a mixture of a first relatively high melting SCC polymer (onset of crystallization greater than 15 °C) and a second relatively low melting SCC polymer (onset of crystallization equal to or less than 15 °C and at least 5 °C less than the onset of crystallization of the first SCC polymer). The quantity of the additive is very small. A range of 1-10,000 ppm (0.001-1%) is given, with a preferred range of 0.005-0.2%. In Mueller's Examples, the amounts used are 4-1,000 ppm (0.004-0.1%).

Applicant's reasons for believing that the amended claims are patentable over Mueller can be summarized as follows.

A. Independent claims 40 and 45 are distinguished from Mueller by the following features.

1. The SCC polymer must be present in an amount such that it thickens the oil. The amounts disclosed by Mueller do not thicken the oil. In order to establish beyond doubt the irrelevance of Mueller's compositions when they are at a temperature below the pour point of the mixture (and are, therefore, solid), these claims further recite that the composition is at a temperature at which the composition, in the absence of the SCC polymer, is liquid.

2. The composition must be a cosmetic composition. It is clear that no such compositions are disclosed or suggested by Mueller.

B. Dependent claims 42 and 50 are further distinguished from Mueller by the requirement that the SCC polymer is present in amount at least 3% by weight. The maximum amount suggested by Mueller is 1%.

C. Dependent claims 43 and 51 are further distinguished from Mueller by the requirement that the SCC polymer is present in amount 3 to 7% by weight. The maximum amount suggested by Mueller is 1%.

D. Independent claims 52 and 57 are distinguished from Mueller by the requirement that the SCC polymer is present in amount at least 3% by weight. The maximum amount suggested by Mueller is 1%.

5 E. Dependent claims 55 and 58 are further distinguished from Mueller by the requirement that the SCC polymer is present in amount 3 to 7% or 3 to 10% by weight. The maximum amount suggested by Mueller is 1%.

F. Independent claim 59 is distinguished from Mueller by the requirement that the oil is one of the oils specified in the claim. Mueller does not suggest that his additives are of any value for such oils.

10 G. Dependent claims 65-67 are further distinguished from Mueller by reason of the further restriction of the oils covered by the claims.

H. Independent claims 68 and 69 correspond to claims 3 and 17, which were not rejected under 35 U.S.C. 102 or 35 U.S.C. 103. They are distinguished from Mueller by the requirement that the composition is a water-in-oil emulsion. Mueller does not  
15 suggest that his compositions can contain water.

I. Dependent claims 72 and 73 correspond to claims 36 and 37, which were not rejected under 35 U.S.C. 102 or 35 U.S.C. 103. They are further distinguished from Mueller by the requirement that the SCC polymer is present in amount 3 to 7% or 3 to 10% by weight. The maximum amount suggested by Mueller is 1%.

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In the section entitled Response to Arguments in the Office Action, the Examiner states that the Morawsky Patent "defines the amount of SCCP sufficient to thicken the oil as 0.1-12 %" and is being used by Applicant "to establish the amount of SCCP necessary to thicken their oil". Applicant disagrees with both those statements. As  
25 noted above in the discussion of the rejection under 35 U.S.C. 132, Morawsky does not define the amount sufficient to thicken the composition as 0.1 to 12%. Furthermore, Applicant is not using the Morawsky Patent to establish the amount of SCCP necessary to thicken the oil. Applicant is referring to the Morawsky Patent and the other patents referred to in the discussion of the rejection for Lack of Enablement to establish that the  
30 technology of thickening oil-containing compositions is well-known, that claims of U.S. patents are regularly granted with functional definitions of the amount of thickening



agents to be used, and that those skilled in the art will have no difficulty in determining the amounts of SCC polymer to be used in the present invention.

The section entitled Response to Arguments in the Office Action also notes that  
5 column 3, lines 60-64 of Mueller states

*The petroleum oils and petroleum oil fractions... whose temperature dependent flow behavior can be improved by the present invention are **predominantly** petroleum oil products from the following groups...*

and that vaseline oil and mineral oil are petroleum oils. Claim 59, formerly Claim 21,  
10 which lists particular oils, has been amended to remove the reference to mineral oils and vaseline oils. It is submitted that claim 59 is clearly patentable, because the oils listed therein are oils whose treatment is not suggested by Mueller.

In the Office Action mailed November 21, 2002, on the CIP application No.  
15 09/810,920, the Examiner makes a number of additional remarks about the Mueller reference which appear to be relevant to this application also. In the interests of speedy prosecution, Applicant will comment on those additional remarks also. Thus the Examiner, in that Office Action states

*Mueller does not use the SCCP as a thinner. It is used as a pour point  
20 depressant, i.e. antifreeze. The use of a pour point depressant does not lower the viscosity, it might even raise it at the ambient temperature, it just does not let viscosity to increase when the temperature drops.*

Applicants believe that this statement, insofar as it can be understood, is incorrect, for the reasons set out below.

25 1. It is well-known that the adverse effects produced by paraffins in oils are not limited to the inability of the oils to flow at temperatures lower than the pour point. The paraffins begin to crystallize at temperatures substantially higher than the pour point. As soon as the crystallization begins, it adversely affects the flow properties of the oil, making the oil more difficult to handle and less efficient as a lubricant. For example,  
30 Mueller notes

*The paraffins crystallize out on cooling. In this way in the ability of the oils flow is **lowered or entirely prevented.** (column 1, lines 16-18, emphasis added)*

*The temperature dependent onset of paraffins crystallization in oils can be taken as a significant criterion for the determination of the flow improving effect (column 1, line 67-column 2, line 1)*

One test typically applied to an oil determines its "wax appearance point (WAT)" or "cloud point (CP)", which is the temperature at which crystallization begins (see Morawsky, column 2, lines 5-14). Another typical test determines the "Cold Flow Plugging Point (CFPP), for example in accordance with ASTM D-975. The CFPP is the temperature at which the oil will no longer flow through a defined filter under particular conditions, and lies between the Cloud Point and the Pour Point. A wide range of additives have been proposed to control, by one mechanism or another, the adverse effects of paraffin crystallization in oils. Reference may be made, for example, to U.S. Patent No. 6,238,447B1 (More) and U.S. Patent No. 5, 525,128 (McAleer et al.), copies of which are attached, in which the efficacy of the additives is assessed by reference to the CFPP.

2. Only once does Mueller refer to his additives as "pour point improvers" (in Claim 1). Everywhere else, Mueller refers to the additives to as "flow improvers" (or the like), and the effect produced by them as "improved flow behavior" (or the like). In this way, Mueller makes it clear that the improvement in pour point is only one aspect of the improved flow behavior which results from use of the defined additives. Reference may be made, for example, to the following passages in Mueller

*Industry has developed polymeric flow improvers, for example the so-called "pour point depressants" (column 1, lines 20-21)*

*effective flow improvers... prototype of a flow improver... improved flow properties... improved low temperature flow behavior... flow improving effect... flow improvers (column 1, lines 34-35 48, 58, 61 and 63, where the references are to prior art additives)*

*It has now been found that certain mixtures... meet the requirements of industry to a particular degree (column 2, lines 15-17)*

*The present invention accordingly pertains to... products... having improved flow behavior... (column 2, lines 21-24)*

*The petroleum oils... whose temperature dependent flow behavior can be improved by the present invention... (column 3, lines 60-62)*

5 *petroleum oils whose flow properties they serve to improve... (column 4, lines 12-14)*

*The effect of the flow improving additive... (column 4, lines 28-29)*

*The outstanding flow improving effect ... (column 4, line 35)*

10 3. Having regard to the known adverse effects of the crystallization of paraffins in oils, and to the broad language used by Mueller, it is clear that Mueller's teaching is not limited to the effect of his additives in depressing the pour point.

4. Applicants do not understand the relevance of Examiner's reference to "antifreeze". If the Examiner continues to believe that the use of antifreeze additives is relevant, he is asked to explain, and to provide documents supporting, his belief.

15 5. There can be no doubt that, at temperatures between (i) the pour point of the oil on its own and (ii) the pour point of the mixture of the oil and the additive, the mixture (which can still be poured) has a lower viscosity than the oil on its own (which cannot be poured), i.e. is thinner than the oil on its own. In this temperature range, therefore, the simple fact is that the additive does act as a thinner, and would be recognized as such  
20 by one skilled in the art.

6. At temperatures below the pour point of the mixture of the oil and the additive, neither the oil on its own nor the mixture of the oil and the additive can be poured. Thus, the mixture, at such temperatures, is certainly "thick", although it does not contain the additive "in amount such that it thickens the oil" (it is the temperature, not the additive,  
25 which makes the oil unpourable). However, in order to avoid possible dispute, Applicants have added a further limitation to the independent claims stating that the SCC polymer" is present in amount such that it thickens the oil" (claims 40 and 45). The further limitation specifies that the composition is at a temperature at which the composition, in the absence of the SCC polymer, is liquid.

30 7. Applicants believe that the Examiner is wrong in asserting that

*the use of the pour point depressants does not lower viscosity, it might even raise it at the ambient temperature, it just does not let the viscosity to increase in the temperature drops.*

As noted above, Mueller's teaching is that his additives will improve the flow properties of the oil. It is well-known to those skilled in the art that

(i) the flow properties of paraffin-containing oils are adversely affected at all temperatures below the Cloud Point (which is the temperature at which the paraffins begin to crystallize) and

(i) the pour point (which is the temperature at which the crystallization of the paraffins has proceeded so far that it is impossible to pour the oil) is substantially below the Cloud Point.

As noted above, there cannot be the slightest doubt that, at temperatures below the pour point of the oil on its own and above the pour point of the mixture of oil and additive, the additive acts as a thinner. There is no reason to suppose, as the Examiner apparently does, that at temperatures above the pour point of the oil on its own, the additive acts as a thickener. On the contrary, the straightforward interpretation of Mueller's teaching is that at all temperatures at which improved flow is significant (i.e. at all temperatures below the Cloud Point), the improvement in flow properties is a reduction, not an increase, in the viscosity of the oil, i.e. that the additive acts as a thinner. It is clear, therefore, that Mueller itself does not support the Examiner's assertion. The Examiner has not produced any document to support his assertion. If the Examiner continues to rely on all or part of this assertion, he is asked to provide documents in support. For the sake of completeness, it is noted that even if it is factually true that, over some part of the temperature range above the pour point of the oil on its own, the presence of Mueller's additive, in the amount specified by Mueller, results in an increase in viscosity, that fact is not relevant to the patentability of the claims under 35 U.S.C. 102 and 103 unless that fact would have been apparent to those skilled in the art when reading Mueller at the priority date of the claims.

The Office Action mailed November 21, 2002, on the CIP application Serial

Number 09/810,920, contains a further statement which may perhaps be relevant to the prosecution of this application, namely

*The statement that "the SCC polymer is present in an amount such that it thickens the oil means what it says" is confusing. The whole basis for the rejections is that the Examiner does not know what the phrase says. The amount of SCCP needed to thicken the oil is not known.*

In connection with this statement, the Examiner's attention is directed to the discussion above of the rejection of the claims for lack of enablement, in particular the passages quoted from issued U.S. patents. It is believed that the U.S. patents referred to make it clear that those skilled in the art have no difficulty in understanding what is meant by the statement that "the SCC polymer is present an amount such that it thickens the oil".

#### The Provisional Double Patenting Rejection

Applicant will address the issues raised by the provisional double patenting rejection when the claims of this application and Application Serial No. 09/810,920 are otherwise in condition for allowance.

#### INTERVIEW

Applicant wishes to thank the Examiner for the courtesy shown to Applicant's attorney, Jeffrey G. Sheldon, during a personal interview on October 18, 2002. During the interview, Applicant's attorney explained why, in Applicant's opinion, the declaration of David C. Steinberg overcame the rejections under 35 U.S.C. 112. The Applicant's attorney also presented a position regarding the Mueller reference. The Examiner indicated that it was his position that reduction of Pour Point as taught by Mueller does not necessarily equate to a reduction in viscosity. The Examiner stated that he would consider test data showing that Mueller's compounds at 1%, which is the maximum percentage taught by Mueller, either decreased viscosity or did not affect it, versus test data showing the effect of Applicant's compounds, at 2%, increased viscosity.

The Examiner indicated during the interview that certain method claims would be allowable. However, as noted in a subsequent telephone message and in the Office Action, the Examiner, on reconsideration, changed his position regarding the allowability of such claims.

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In addition, Applicant's attorney queried whether it would be appropriate to have a provisional double patenting rejection for the two applications. The Examiner indicated that such a rejection would probably issue, and that in view of that new ground of rejection, the next Office Action would not be made final.

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### CONCLUSION

It is believed that this application is now in condition for allowance, and such action at an early date is earnestly requested. If, however, there are any outstanding issues that could usefully be discussed by telephone, the Examiner is asked to call the undersigned.

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Respectfully submitted,



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